

Lilienfeld (*Dissert.*, Marburg). He describes a preparation from a man, aged sixty-five years. A pouch-like blind ending of a supernumerary ureter within the bladder.

Osterloh (*Jahrbücher der Gesellschaft für Natur und Heilkunde in Dresden*, 1872-3). In the case of a new-born child there was found a left double ureter. The right ureter was normal. The extra ureter ended in a blind sac behind the bladder. The upper half of the kidney was hydronephrotic.

Heller describes a case in a man, aged seventy-nine years, of great hydronephrosis of half the kidney with a double ureter, the blind end of which terminated in the bladder wall.

Boström (*Beiträge zur path. Anatomie der Neuren*, Freiberg, 1884) describes the case of a five-and-a-half-months'-old child who had a double total division of the ureters. One ureter ended blindly within the bladder, compressing the urethra and the other ureteral orifice of that side.

Geerds (*Dissertat.*, Kiel, 1887) reports the case of a female child, aged three weeks, who presented a tumor, about the size of the end of the little finger, protruding through the urethra. The tumor could be reduced into the bladder. The diagnosis was inversion and prolapse of a part of the posterior bladder wall through the urethra. At autopsy a pouch-like blind ending of a supernumerary ureter within the bladder and urethra was discovered.

Orthmann (*Centralblatt für Gynäkologie*, 1893, No. 7) reports the case of a girl, aged twenty-seven years, in whom the supernumerary ureter ended in a blind sac projecting as a cyst into the vagina.

Stoltz (*Gazette médicale de Strassburg*) describes a case in which the right kidney had two ureters. There was no left kidney. One of the ureters of the right kidney ended in a cystic tumor, the other ended blindly near the bladder.

BRONCHIAL CONCRETIONS.

WITH THE REPORT OF AN ORIGINAL CASE.

BY L. W. ATLEE, M.D.,
OF PHILADELPHIA.

R. D., aged twenty-nine years, native of Ireland, a fireman in the United States Navy. He is a man of medium height, and very powerfully built and muscled. He was admitted at the Naval Hospital in Philadelphia from one of the ships at the navy yard, the "hospital ticket" giving the diagnosis of his disease as being "bronchitis." Physical examination of the thoracic organs was almost negative—almost, because on the anterior part of the left chest at the second interspace, on the parasternal line, there could be heard some dry,

small, harsh râles. The temperature on admission was 101°, pulse 84, respirations 24. The tongue was slightly coated, and there was some anorexia. The subjective symptoms were, in regard to the lungs, sharp pain, increased by cough, referred to the aforementioned spot, and frequent teasing cough. There was occasionally some thin, slightly yellowish sputum brought up. During the succeeding three days his condition showed no change, excepting that the sputum became freer and slightly purulent. This state continued until the eighth day, when his temperature ran up to 104°, and the respirations and pulse became more rapid. The pain was now much more severe at the spot on the left side. We thought we could detect subcrepitant râles and bronchial breathing, and there was dulness on percussion over the place, measuring some three inches in diameter. On the ninth day the temperature dropped to 101°, and the sputum, which had been tenacious and blood-streaked, became thin and yellowish-green. By the twelfth day the temperature began to show a septic (hectic) character, and the sputum was very profuse and intensely fetid. The stained specimens of the sputum showed no tubercle bacilli, though naturally in such a case they were carefully and anxiously looked for. The general health by this time showed the effects of the disease, as the man, from being robust and ruddy, became sallow, and lost much flesh. The profuse fetid expectoration and hectic continued without change until the fourteenth day. On the morning of this date, during a violent spell of coughing, he felt a solid, sharp body come up with the sputum, which he spit out into his spit-cup. He was astonished at the loud sound it made on striking the bottom of the cup, and called the nurse's attention to it. The cup was brought to me, and the concretion removed. It was about three-quarters of an inch long, and conical in shape, the largest diameter being about one-quarter of an inch. That it looked like a piece of necrosed bone will best describe it, and it had very sharp, rough, and jagged edges. A rough chemical analysis gave the reactions for lime and phosphorus. The man's recovery after getting rid of this concretion was almost immediate, and he left the hospital ten days after its discharge, seeming in no way any the worse for his experience.

It is to be regretted in this case that a more extensive examination of the concretion was not made. The history of this man's condition previous to his admission was entirely negative; he had always enjoyed robust health, and knew nothing as to his having, perchance, at any time got any foreign body in his lung.

The most complete work on this subject was done by L. Leroy, in his *Thèse pour le doctorat en Médecine*, Paris, 1868; *Les Concretions Bronchiques*. He eliminates foreign bodies from without, but includes all those which have been found in the respiratory organs under three divisions—those found in the bronchial tubes, in the glands near the bronchial tubes and ulcerating through their walls into their cavity, and those found in the parenchyma of the lung.

Historically the references made to this subject by the ancient authors are very indefinite. Morgagni analyzes the cases published prior to him of concretions found in the lungs or thrown off in the

expectoration. He mentions that Areteus, Galen, Alexander of Tralli, Paulus Aegineta, have observed concretions brought up in coughing; Fabricius cites an example of a consumptive who threw off a great number; Boerhaave says that Vaillant expectorated 400 very small ones; Benevenius saw a stone expectorated that was nearly as large as a filbert; and Cartulus found in the interior of a lung a stone as large as a hen's egg; Liéteaud and Portal bring together a few short observations from the authors who preceded them, especially Morgagni. From the presence of these numerous and often large concretions arose the disease called "calculous phthisis," admitted by all the writers of the sixteenth and seventeenth centuries, and that Bayle restored to honor in 1810 by the publication of his great work on phthisis.

The ancient authors believed the calculous masses found in the lungs were due to the inhalation of dust, but Laennec believed them to be formed during the healing of tubercles, and that nature had been too extravagant in the deposition of the lime salts. Broussais considered them to be due to the degeneration of tubercles. In one hundred autopsies performed on old people Roger found concretions in fifty-one cases, mostly at the apex. Riellet and Barthez, in two hundred and sixty-five autopsies on tuberculous children, found them twenty-one times. These "lung stones" may, by what Laennec called "a secondary crop" of tubercles around them, be found in a cavity communicating with a bronchus. Subsequently these calcareous bodies—lung stones, as they are sometimes called—may be expectorated (Osler).

The lymphatic glands of the lungs are intimately connected with the bronchi, and where hypertrophied they may encroach on their calibre, and when inflamed they may become adherent to their walls, and thus cause perforation. The different phases of this process have been followed out by Barthez and Riellet (*Med. des Enfants*). In one case a bronchus was perforated by a small cretaceous gland. Situated directly behind the right bronchus was a gland about the size of a small pen, and containing two tubercles entirely calcified and about as large as millet seeds. At this spot the cartilage was eroded and the mucous membrane ulcerated, but to a less extent than the cartilage. A calculus contained in a lymphatic gland may, so it appears, find its way into a bronchus. *Circa divisionem trachea primam vomicae adhaerenti parti ejus posticae includebatur calculus acutus et aspes, pisi magnitudine.*

The concretions found in the bronchi of tuberculous origin have been of variable volume up to the size of a hazel-nut; the form has been round or irregular; the structure porous; their consistence variable, some being easily crushed between the fingers, others as hard as stone. The color may vary from the whiteness of chalk to a dirty yellow. Microscopical examination, after previous treatment with muriatic acid,

shows no distinct structures. Chemical analysis proves them to be composed principally of carbonate and phosphate of lime.

Morbid ossification has been encountered in the lungs as in most of the other organs, and believed to be due to the result of chronic inflammation, and not to senility. Luschka found ossified places in the lungs of a man, aged fifty-four years, who died of chronic Bright's disease. Rokitanaky attributed numerous attacks of pneumonia to the presence of two osseous masses in the lung tissue. Foerster, in Virchow's *Archiv*, showed that a lung stone he examined was made up of lung tissue ossified. The passage of these osteoids into the interior of a bronchus by a process of ulceration is probable. Dalmas said he saw these bodies "striking into the bronchi," but perhaps these were only cretaceous lymph glands.

Leroy gives the history of a case in a woman, aged forty-three years, who developed symptoms of pleurisy and effusion on the left side. At the autopsy the left pleural cavity was partly filled with a purulent exudate. A concretion was found in a dilated bronchus which communicated with the pleural cavity by a fistulous tract. No evidence could be found in the lung tissue that the concretion had formed in it, and both lungs were otherwise perfectly normal.

The following case (Leroy) is more happy in its termination, but is not complete, as the French wit said no case could be without a post-mortem. A doctor in active practice in the country began to have an obstinate cough, hectic fever, loss of flesh, and occasional hæmoptysis. There were moist râles and dull percussion sounds under the right clavicle. He continued to go from bad to worse, when one day in a fit of coughing he expectorated two small concretions that looked like the malleus and incus. The health was gradually re-established after this, and seven years later he was perfectly well.

It has been observed that during long-continued irritation the cartilages may become ossified in the non-dilated as well as in dilated bronchi. Later, these ossified portions may become detached from the bronchial walls and lodged in the bronchus. Leroy gives the long history of a case in which symptoms of an abscess existed at the base of the right lung; in a bronchiole close to this cavity three concretions were found, which on examination proved to be true bone or *ossified cartilage*.

As we have stated, most of the ancient writers believed the concretions found in the bronchi were formed there by inspired dust. Morgagni believed they were formed in the bronchi, and relates an instance in which a patient coughed up a concretion "which had its origin in the extremities of the small bronchi and the prolongation of the windpipe; it had the form of the place it occupied; it was oblong, cylindrical, slight, and was covered with little branches."

It has been said that inspissated mucus could act as a nucleus for the formation of a concretion in a bronchus, the lime salts being deposited on it. Laennec gives a note by Andral: "In the lungs of a man, aged sixty years, who had never had any signs of lung disease I found several calculi, hard as stones, with some branches like the renal stones. These calculi probably had their origin in the bronchial ramifications. The lung tissue was perfectly healthy everywhere."

Leroy extracts from *Bull. et Mém. de la Soc. des Hôp. de Paris*, 1865, p. 6, a most interesting case, particularly with reference to the original case given here, but unfortunately our space will only permit of a short reference to it.

A man, aged thirty-four years, had pneumonia six years ago, since which he has had cough and deeply-felt pain in the right side of the chest. During the past two years every month or two he developed symptoms of a *vomica*, when he had to quit work and remain in bed. There would be great pain, fever, profuse fetid purulent sputum. This condition would last some fifteen days, when he would be able to return to his work. After a particularly severe one of these attacks he had a sudden, brisk hæmoptysis, and while coughing and spitting out the blood he heard a concretion strike loudly in the basin. After this the man completely regained his health. There was no history of his having got a foreign body in his lung, and his work was not dusty. The concretion was not chalky. It was compact and hard, but neither cartilaginous nor bony in its structure. It weighed forty-seven centigrammes and had about a dozen rootlets.

In *Les Bull. Soc. Anat.*, t. xxviii., p. 88, et *Bull. Soc. Méd. Hôp.*, p. 9, Leroy finds the following as showing concretions do form in the bronchus: A man had spitting of blood and signs of pneumonia in the left side. At the autopsy no signs of tubercles were found, and the bronchi were dilated. One of these contained a small chalky mass, which was branched, and around it the lung tissue was pneumonic; the mucous membrane of the tube was ulcerated, but the tube was not perforated. There was a purulent effusion in the pleura.

In the diagnosis of a bronchial concretion we have no specific signs to aid us. The symptoms would lead to the diagnosis of the existence of a phthisical cavity or perhaps to bronchiectasis, "which results from the presence of a foreign body in the air tubes" (Osler). The absence of tubercle bacilli in the sputum will eliminate tuberculosis, and perhaps the Röntgen rays might aid in discovering a concretion of sufficient magnitude.

From the foregoing cases it is seen that ordinarily the patient is troubled for a greater or less length of time with cough, first dry, then followed by mucous or mucopurulent sputum. The physical signs may be those of a cavity, and the general symptoms those of hectic (septic) fever. Dyspnœa, pain, and hemorrhage do not help us. The

anomalous character of the symptoms could lead us to suspect their nature. Leroy gives as an example of the diagnostic difficulties in these cases of bronchial concretions the following case reported by M. Barth (*Bull. Soc. Méd. des Hôp.*, 1865, p. 9:

A young woman had a very serious and obstinate bronchitis, though auscultation gave no signs of its being of a tuberculous character. At a certain period of the disease the expectoration became very considerable, and one morning a concretion as large as a grape-seed was spit up; a little later a second concretion was expectorated. After this the health was rapidly restored. The concretions were believed to have ulcerated their way through the bronchial walls from the lymphatic glands.

Without going into profitless speculation as to the origin of the calculus thrown off in the original case reported, the opinion was formed that the concretion had probably been latent in the bronchus for a long time, and that in some way it was disturbed and caused to act as an irritant, making a *locus minor resistencie*, and in the light of modern bacteriology the habitat of the body and its adjoining tissue became infected; hence the bronchitis, the pneumonia, the tissue necrosis, and the happy termination in the freeing and expelling of the body. In this case, previous to the onset of the attack of bronchitis, the man had been employed at some unusually heavy and arduous work, shovelling coal in a coal-lighter. The unaccustomed exertion entailed in the performance of such extremely heavy labor could perhaps have disturbed the quiescent concretion.

PROGRESSIVE MUSCULAR DYSTROPHY, WITH THE REPORT OF AN AUTOPSY.¹

By B. SACHS, M.D.,

PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE NEW YORK POLYCLINIC; NEUROLOGIST TO THE MONTEFIORE HOME, ETC.;

AND

HARLOW BROOKS, M.D.,

INSTRUCTOR OF HISTOLOGY AND EMBRYOLOGY, UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE; PATHOLOGIST TO THE MONTEFIORE HOME, ETC.

MORE than twelve years have passed since one (Sachs) of the present writers discussed the subject of progressive muscular atrophy before the American Neurological Association. During this period innumerable contributions have appeared relating to the amyotrophies and the dystrophies, yet many of the same questions which puzzled us at that time remain unsolved. It is generally assumed that the amyotrophies

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